

Perioperative Antibiotic Prophylaxis

Updated 2026

Prepared by the Montefiore Antimicrobial Stewardship Program & Department of Pharmacy. This tool complies with national guidelines and regulatory guidance. ONLY THE MOST COMMON PROCEDURES ARE INCLUDED.

Surgical Procedures NOT Requiring Prophylactic Antibiotics (clean, sterile procedures)

Clean procedures

- Breast biopsy
- Circumcision
- Elective rhinoplasty
- Elective tonsillectomy
- Elective low risk inguinal hernia repair
- Low risk gallbladder surgery (e.g.-elective laparoscopic cholecystectomy)
- Thyroid biopsy/thyroidectomy/parathyroidectomy/lymph node biopsy
- Uncomplicated tubal ligation
- Others (colonoscopy, cardiac cath, permcath placement/removal)

Allergies: obtain history at pre-op visit when possible (e.g., before administration of anesthesia)

- **For any type of penicillin allergy** (regardless of type or severity): **cephalosporin is accepted practice** (cross reactivity is <5%; side chains are dissimilar)
- For cephalosporin allergies: cefazolin can be used safely given its unique side chain and lack of cross reactivity, unless allergy is cefazolin-specific

Timing:

- Administer within 60 minutes prior to the first incision [**<30 minutes is ideal**, except vancomycin and ciprofloxacin - both need to be infused over **>60 minutes**]

Restriction Policy:

*Most regimens do **NOT** require ID approval for timely delivery except IV vancomycin; to avoid delays [Contact Stewardship via Epic Secure Chat](#)

Antibiotic re-dosing:

Subsequent prophylactic doses should be the same as initial dose; frequency determined by age, renal function, EBL in OR (see below).

- Antibiotic continuation is not recommended for clean procedures after wound closure
- Presence of drains is NOT an indication to continue prophylaxis**
- Because vancomycin, aminoglycosides, ceftriaxone have long half-lives, **no re-dosing is needed.**
- See table below for details

*MRSA risk factors & Indications for adding IV Vancomycin in cardiothoracic, neurosurgical, orthopedic procedures:

- MRSA colonization/infection
- Multiple prior hospitalizations
- LTCF stay
- Hemodialysis
- Inpatient stay > 3 days (at MMC or transfer facility)

***Obtain pre-op MRSA nares PCR for risk assessment if not previously recorded in EPIC**

Document rationale:

- Procedure doesn't require prophylaxis
- Use of alternative antibiotics
- Extending prophylaxis beyond peri-op period; e.g., suspected/known surgical or other infection

Notes:

- The **Joint Commission** states that medication compounding must be performed by pharmacists, not in the OR.
- If infection (or asymptomatic bacteriuria for urological procedure) use culture/susceptibility to guide antibiotic selection (contact ID/ASP for assistance)
- Gentamicin vials come in 80 mg; max prophylaxis dose is 240 mg.

Antibiotic Washes:*

- Montefiore does not universally endorse washes, irrigations and soaks given lack of efficacy data to support use for procedures such as sterile device insertion (e.g., penile implant) (CDC SSI prevention guidelines. JAMA 2017)
 - Intra-op antibiotics (e.g., vancomycin, aminoglycosides) may be indicated for certain orthopedic, spine procedures where literature supports this practice and/or is the clinical standard of care
- *References available upon request

Type of Surgery	Antibiotic and Dose (Cephalosporins acceptable in any type of penicillin allergy as noted above)	Severe Allergy/Type 1 Cephalosporin Hypersensitivity Reaction (Cefazolin can be used safely when indicated unless allergy is cefazolin-specific)	Re-Dosing (same as initial dose; based on normal renal function); Maximum daily dose = MDD
Cardiothoracic Prosthetic valve insertion, CABG, other open-heart surgery, or pacemaker insertion Vascular Arterial surgery involving the abdominal aorta, a prosthesis, or a groin incision; leg amputation for ischemia Orthopedics & Spine Hip and knee joint replacement, fracture repair/implantation of internal fixation devices, tendon repair, laminectomy/fusion of spine	<p>Adult: Cefazolin 2 g IV (1 g if <60kg; 3 g if >120kg)</p> <p>Pediatric: Cefazolin 30 mg/kg IV</p> <p><i>*if MRSA risk factors (see above), add IV Vancomycin 15mg/kg x 1 peri-op dose to Cefazolin</i></p> <p>Gentamicin for Spine** 3mg/kg IV or IM (1.5 mg/kg IV or IM if CrCl <30 or HD, OR age ≥80) if multi-level instrumentation, prolonged procedures, morbid obesity, neuromuscular disease, bladder/bowl incontinence, spinal cord injury or general spine trauma</p>	<p>Adult: Vancomycin 15mg/kg IV</p> <p>Pediatric: Vancomycin 15 mg/kg IV</p>	<p><i>*For patients already on B-lactam antibiotics for active infection (e.g., piperacillin/tazobactam, cefepime, meropenem); re-dose perioperatively if normal GFR unless prior dose given within the last 2 hours</i></p> <p>Ampicillin-sulbactam: 4 hours (MDD: 18g Adult, 12g Peds)</p> <p>Cefazolin: 4 hours (MDD: 12g Adult, 6g Peds)</p> <p>Cefoxitin: 2 hours (MDD: 12g Adult and Peds)</p> <p>Clindamycin: 6 hours (MDD: 2.7g Adult and Peds)</p> <p>Oxacillin: 4 hours (MDD: 12g Adult and Peds)</p> <p>Piperacillin/tazobactam: 4 hours (MDD: 18g Adults and Peds)</p>
Neurologic Craniotomy, VP shunt placement, and other CNS devices Urologic Transurethral surgery (e.g., TURP), transrectal biopsy (<1hr before), urologic procedure with history prosthetic joint Penile Implant	<p>Adult: Oxacillin 2 g (for device placement procedures requiring CSF penetration) OR Cefazolin 2 g IV (1 g if <60kg; 3 g if >120 kg) Pediatric: Oxacillin 50 mg/kg IV OR Cefazolin 30 mg/kg IV <i>*if MRSA risk factors (see above), add IV Vancomycin 15mg/kg x 1 peri-op dose to Cefazolin</i></p> <p>Adult: Cefoxitin 2 g IV (3 g if >120 kg) OR Gentamicin** 3mg/kg IV or IM (1.5 mg/kg IV or IM if CrCl <30 or HD, OR age ≥80) Pediatric: Cefazolin 30 mg/kg IV</p> <p>Gentamicin IV 1.5-3mg/kg (see above) + Cefazolin 2 g IV (1 g if <60kg; 3 g if > 120kg)</p>	<p>Adult: Vancomycin 15mg/kg IV</p> <p>Pediatric: Vancomycin 15 mg/kg IV</p> <p>Gentamicin **3mg/kg IV or IM (1.5 mg/kg IV or IM if CrCl <30 or HD, OR age ≥80)</p> <p>Gentamicin IV 1.5-3mg/kg (see above) + Clindamycin 10 mg/kg IV</p>	<p>Re-dose for any case with EBL >1.5L regardless of timing of last dose</p>
Plastic Surgery Implementation of permanent prosthetic material, or entering the oral cavity of pharynx Head & Neck/ENT Involving oropharynx	<p>Adult (Clean with Foreign Body): Cefazolin 2 g IV (1 g if <60kg; 3 g if > 120kg)</p> <p>Adult (Head & Neck Cancer OR Clean Contaminated): Cefoxitin 2 g IV (3 g if >120 kg)</p> <p>OR [Cefazolin 2 g IV + Metronidazole 500 mg IV] (Cefazolin 1 g if <60kg; 3 g if > 120kg)</p> <p>Pediatric: Cefazolin 30 mg/kg IV</p>	<p>Adult (Clean with Foreign Body): Clindamycin 600 mg IV Adult (Head & Neck Cancer OR Clean Contaminated): Clindamycin 600 mg IV +/- Gentamicin** 5mg/kg IV (1.5 mg/kg IV if CrCl <30 or HD, OR age ≥80). Pediatric: Clindamycin 10 mg/kg IV + Gentamicin 2 mg/kg IV</p>	<p>Re-dose for any case with EBL >1.5L regardless of timing of last dose</p>
Abdominal High-risk gastroduodenal, high-risk biliary tract, colorectal, appendectomy, bariatric surgery, etc.	<p>Adult: Cefoxitin 2 g IV (3 g if >120 kg) OR Cefazolin 2 g (1 g if <60kg; 3 g if >120 kg) + Metronidazole 500 mg IV</p> <p>Pediatric: Ampicillin/sulbactam 50 mg/kg IV (dose based on ampicillin component)</p> <p><i>Patients already on ceftriaxone, piperacillin/tazobactam, cefepime, meropenem for active infection can continue these</i></p>	<p>Adult: Metronidazole 500 mg IV + Gentamicin** 5mg/kg IV (1.5 mg/kg IV if CrCl <30 or HD, OR age ≥80)</p> <p>Pediatric: : Ciprofloxacin 15 mg/kg IV + Metronidazole 10mg/kg IV</p>	<p>Antibiotics below require only 1 peri-operative dose (long half-life; no re-dosing unless EBL>1.5L):</p> <p>Ceftriaxone Gentamicin Metronidazole Vancomycin</p>
Gynecologic Hysterectomy	<p>Cefazolin 2 g (1 g if <60kg; 3 g if >120 kg) [add Metronidazole 500 mg IV if inadvertent bowel involvement] OR Cefoxitin 2 g IV (3 g IV if > 120 kg) [if anticipated bowel involvement]</p>	<p>Metronidazole 500 mg IV + Gentamicin**5 mg/kg IV (1.5 mg/kg IV if CrCl < 30 or HD, OR age ≥ 80)</p>	

*For LVAD, liver, kidney, lung and heart transplant, orthopedic & spine surgeries, see service specific protocols

**Dose gentamicin by ideal body weight (IBW); use adjusted body weight (ABW) if actual body weight is 120% of IBW; use actual body weight if its less than IBW. Epic calculates IBW and ABW automatically from Epic patient profile

[Contact Antimicrobial Stewardship via Epic Secure Chat](#)